

Remarks/Arguments

Reconsideration of the above-identified application in view of the present amendment and following remarks is respectfully requested. Claims 1-4 and 18-33 are pending. By the present amendment, claims 1 and 22 have been amended.

Interview Summary

The Applicant wishes to thank the Examiner for the courtesies extended during the telephone interview conducted on April 2, 2009. During the interview, the Examiner clarified the prior art relied upon in making the 35 U.S.C. §103 rejection of claims 20, 23, and 31-33.

Preliminary Matters

The Examiner's indication that claims 4 and 25-28 would be allowable if rewritten in independent form is acknowledged with appreciation. Likewise, the allowability of claims 18 and 19 is gratefully acknowledged.

Claim Rejections – 35 U.S.C. §102

Claims 1-3, 22, 29, and 30 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2002/0032447 to Weikel (hereafter "Weikel").

35 U.S.C. §102(e) states that "[a] person shall be entitled to a patent unless...the invention was described in a patent granted on an application for patent by another filed in the United States before the invention of the applicant for patent..." Additionally, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior

art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

As amended, claim 1 recites an apparatus for cutting bone that has means for moving an articulatable head section away from a tubular portion along a central axis to space the head section from the tubular portion and means for articulating the head section relative to the tubular portion when the head section is spaced from the tubular portion. It is respectfully submitted that amended claim 1 is patentable of Weikel because Weikel does not teach or suggest this feature.

Weikel discloses tools for use in the creation of cavities in bones. The Office Action specifically relies on the tool shown in Figure 20 of Weikel to reject claim 1. The tool shown in Figure 20 has a body 44 and a flapper 80 attached to the body 44 by a hinge 88. The angular position of the flapper 80 relative to the body 44 can be varied by displacing a rod 74 to rotate the flapper 80 about the hinge 88 and relative to the body 44. Unlike the apparatus recited in amended claim 1, the flapper in Weikel never moves away from the body along the central axis of the tool. In particular, the hinge prevents the flapper from ever becoming separated from the body. Examining the remaining tools disclosed by Weikel reveals that none of the tools teach or suggest an apparatus having means for moving an articulatable head section away from a tubular portion along a central axis to space the head section from the tubular portion and means for articulating the head section relative to the tubular portion when the head section is spaced from the tubular portion.

For this reason, it is respectfully submitted that amended claim 1 is patentable over Weikel. Accordingly, it is respectfully requested that amended claim 1 be allowed.

Claims 2, 3, 29, and 30 depend from claim 1 and are allowable for at least the same reasons as claim 1 and for the specific limitations recited therein. Accordingly, it is respectfully requested that claims 2, 3, 29, and 30 be allowed.

As amended, claim 22 recites an apparatus for cutting bone having means for moving an articulatable head section away from a tubular portion along a central axis to space the head section from the tubular portion and means for articulating the head section relative to the tubular portion when the head section is spaced from the tubular portion. As noted, Weikel does not teach or suggest this feature, and thus it is respectfully submitted that amended claim 22 is patentable over Weikel. Accordingly, it is respectfully requested that amended claim 22 be allowed.

Claim Rejections – 35 U.S.C. §103

Claims 20, 23, and 31-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Weikel in view of U.S. Patent No. 5,871,204 to Spirer (hereafter “Spirer”).

35 U.S.C. §103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” In making a determination of obviousness under 35 U.S.C. §103(a):

...the scope and contents of the prior art are determined; the differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. Graham v. John Deere, 383 U.S. 1, 17-18, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966).

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). However, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1741; 2007 U.S. Lexis 4745; 167 L. Ed. 2d 705; 75 U.S.L.W. 4289 (2007) (emphasis added), *citing* In re Kahn, 441 F.3d 977, 988 (CA Fed. 2006). Also, the U.S. Supreme Court noted KSR Int'l. Co. V. Teleflex, Inc., that the analysis supporting a rejection under 35 U.S.C. §103(a) should be made explicit, and that it was “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements in the manner claimed.” KSR at 1741.

Claim 20 recites an apparatus for cutting bone. The apparatus has an elongate member that has a distal end portion that includes a ratchet wheel fixed to a head section for pivotal movement around a pivotal axis. The ratchet wheel has a first set of ratchet teeth that are engageable with a complimentary second set of ratchet teeth located on a distal end of a tubular portion.

The Office Action acknowledges that Weikel fails to disclose an apparatus having “an articulating mechanism including complementary ratchet teeth between the head section and the tubular portion.” The Office Action relies on Spirer to cure this deficiency of Weikel, asserting that it would have been obvious to one having ordinary skill in the art to substitute the articulating mechanism of Spirer for the articulating mechanism of Weikel.

Modifying the device in Weikel to include the articulating mechanism of Spirer, however, would not be obvious to one having ordinary skill in the art because such a modification would change the principle of operation of Weikel.

The tools disclosed in Weikel are used to create cavities in bones. To accomplish this, first, a cannula is advanced into the vertebral body of the bone in which a cavity is to be created. Next, a bone tamp is inserted through the cannula. The tamping mechanism of the bone tamp is then deployed within the vertebral body of the bone. The bone tamp includes a flapper 80 pivotally connected to a body 44. The flapper 80 is articulatable relative to the body by engaging a sliding rod 74 with the flapper 80. Articulation of the flapper 44 creates a void within the bone. Once the bone tamp has been used to create the desired cavity, the tamping mechanism is retracted so that the bone tamp can be withdrawn through the cannula.

Spirer discloses a hand tool 10 with a pivotal head portion 12. The hand tool includes a first manually rotatable collar 46 which causes movement of a second slideable collar 78 along a handle 14 of the tool 10 to secure the head portion 12 at a desired angle with respect to the handle 14. Serrations 76, 80 on the tool head 12 and slideable collar 78 releasably engage each other to lock the head at the desired angle.

It is clear from the above discussion that in order to adjust the angle at which the tool head in Spirer is locked at, the serrations on the slideable collar must be manually disengaged from the serrations on the tool head by manipulating the rotatable collar and slideable collar located at the opposite end of the handle on the hand tool (See FIG. 2 and FIG. 3). Since the serrations are provided on a hammer, the angle of the head relative to the handle can be adjusted at any time, as desired. In Weikel, on the other hand, adjustment of the angle of the flapper relative to the body is only desired once the tool has been inserted into the cannula within a vertebral body (Page 10, Paragraph 133).

If the articulating mechanism of Spirer were substituted for the articulating mechanism in the bone tamp of Weikel, it would be impossible for a surgeon to manually disengage the serrations on the flapper from the serrations on the body, as the bone tamp would be inserted inside a cannula located within a vertebral body of a bone and, thus, inaccessible to the surgeon. Since the flapper of the resulting bone tamp could not be articulated relative to the body while the bone tamp remains inserted inside the cannula located within the vertebral body of the bone, as desired

by Weikel, modifying Weikel in view of Spirer would change the principle of operation of Weikel.

For these reasons, it is respectfully submitted that the modification of Weikel in view of Spirer would not be obvious to one having ordinary skill in the art and, thus, the 35 U.S.C. §103(a) rejection of claim 20 should be withdrawn. Accordingly, it is respectfully requested that claim 20 be allowed.

Claim 23 recites an apparatus for cutting through cortical bone in a vertebral body. The apparatus has an elongate member that has a distal end portion that includes a ratchet wheel fixed to a head section for pivotal movement around a pivotal axis. The ratchet wheel has a first set of ratchet teeth that are engageable with a complimentary second set of ratchet teeth located on a distal end of a tubular portion.

The above arguments traversing the rejection of claim 20 as being unpatentable over Weikel in view of Spirer are applied in the same exact manner to respectfully traverse the rejection of claim 23 as being unpatentable over Weikel in view of Spirer. In the interest of brevity replication of these arguments has been omitted. In view of these arguments, it is respectfully submitted that the 35 U.S.C. §103(a) rejection of claim 23 is improper and should be withdrawn. Accordingly, it is respectfully requested that claim 23 be allowed.

Claim 31 depends from claim 20 and is allowable for the same reasons as claim 20 and for the specific limitations recited therein. Claims 32 and 33 depend from claim 23 and are allowable for the same reasons as claim 23 and for the

specific limitations recited therein. Accordingly, it is respectfully requested that claims 31-33 be allowed.

Claims 21 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Weikel in view of Spirer further in view of U.S. Patent No. 4,880,015 to Nierman. Claim 21 depends from claim 20 and is allowable for the same reasons as claim 20 and for the specific limitations recited therein. Claim 24 depends from claim 23 and is allowable for the same reasons as claim 23 and for the specific limitations recited therein. Accordingly, it is respectfully requested that claims 21 and 24 be allowed.

Conclusion

In view of the foregoing, it is respectfully submitted that the above-identified application is in condition for allowance, and allowance of the above-identified application is respectfully requested.

Please charge any deficiency or credit any overpayment in fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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